

## Guest editorial

# Groundless attack on an uncommon man: William Haddon, Jr, MD

In the 11 June 2001 issue of *The New Yorker* magazine, a lengthy article (titled "Wrong Turn: How the fight to make America's highways safer went off course") by Malcolm Gladwell, a regular contributor to the magazine, distorts the history of attempts to reduce motor vehicle injuries. He accuses William Haddon, Jr, MD, as well as Ralph Nader, Joan Claybrook and others, who he labels as "Haddonites", of diverting attention away from driver factors toward vehicle factors resulting in less reduction in highway deaths than could have been accomplished. Gladwell particularly focuses on the delay in passage of seat belt laws in the United States relative to many developed countries and infers that if Haddon, Nader, Claybrook, *et al* had supported belt use laws, they would have been enacted earlier in the United States.

Several people responded at length in the 9 July 2001 issue but only short parts of their letters were published.<sup>1</sup> In response to the letters, Gladwell briefly defended the article and compounded his mischaracterization of Haddon, "Haddon opposed seat belt laws in California, in the tragically mistaken belief that greater gains would be made with airbags. The automakers' preference for seat belts over airbags wasn't merely a cynical ploy; it was the correct position. Safety, as Nader and others took too long to understand, begins with seat belts". When I wrote to the editors asking for documentation to support Gladwell's assertion regarding the California belt law, they did not respond. Now that both seat belts and airbags are installed in most new light vehicles and seat belt use is relatively high, would Gladwell or those among his sources in the auto industry and elsewhere advocate no longer including airbags in those vehicles?

It was most of the vehicle manufacturers, not the "Haddonites", who did not install lap belts in their vehicles until 1964 when several states required them. It was most of the auto industry that left shoulder belts out of their vehicles until Haddon initiated the first federal regulations requiring them in 1968. It was Ford Motor Company that persuaded the Nixon administration to allow, in lieu of airbags, annoying buzzers and devices that would not allow the car to start until belts were pulled 4 inches or more from retractors. The adverse reaction from the public spooked many in Congress, and almost resulted in repeal of the Highway Safety Act that authorized the government to set motor vehicle standards.<sup>2</sup> Given that history, and the heavy lobbying against motorcycle helmet use laws in the state legislatures on the basis of "personal freedom", how can one accuse "Haddonites" of delaying belt use laws?

It was the auto industry that claimed seat belts and airbags were substitutes, one for the other, and that sufficient belt use could be achieved to negate need for airbags. Indeed, General Motors produced about 1000 cars in the 1973 model year with airbags and no seat belts, in disregard for benefits of seat belts in addition to that of airbags. And, as was predicted from the physics, airbags are more protective in higher velocity frontal crashes than belts alone.

The motor vehicle industry had far more resources to lobby for seat belt laws than the "Haddonites" but did not do so in the 1970s when other developed countries were adopting belt use laws. In the mid-1980s, then Secretary of Transportation Elizabeth Dole accepted the industry's substitution argument and said there would be no federal passive restraint standard if enough states adopted seat belt use laws. Only then did the industry lobby successfully in many states for the laws. Haddon published an op-ed piece in the *Los Angeles Times* in 1984 calling attention to the fact that the Dole approach to belt laws would negate the progress toward airbags in cars. But he made clear that both seat belts and airbags were needed. California legislators passed a law that required belt use as long as the United States Department of Transportation did not count California in the Dole option to stop airbags, similar to laws in Michigan and Missouri. Thus, there was no delay in belt laws and airbags survived.

I worked at the Insurance Institute for Highway Safety while Haddon was President during the early years of the hottest debates on seat belts and airbags (1970-78), and kept in contact with Haddon until he became gravely ill some months before his untimely death in 1985. I never heard Haddon voice opposition to seat belt laws or any other behavior-change attempt that had been shown scientifically to reduce injury. Institute personnel were prohibited from lobbying because of our non-profit research status. We did a lot of research on attempts to change behavior including attempts to increase seat belt use voluntarily and the effects of belt use laws. The results were supportive of seat belt use laws and were released to news media and others in a position to influence passage of laws. The institute supported financially research by Australians on the effect of the first law enacted in a sizable jurisdiction (the state of Victoria).<sup>3</sup> While at the institute, I published a paper finding 80% belt use in Australia and New Zealand as a result of Haddon's insistence that I go there and study the matter.<sup>4</sup> These studies and others were publicized by the institute in its newsletter, *Status Report*, that had a circulation of some 16 000 at that time, including state legislators and highway safety officials.

The Haddon matrix, developed by Haddon and Robert Brenner when Haddon was head of what became the National Highway Traffic Safety Administration, emphasizes the possible changes in combinations of driver, vehicle, and environmental factors before, during, and after collisions to minimize injuries and their severity.<sup>5</sup> This is not the work of a one dimensional man, focused only on "passive" approaches. Haddon coined the word "passive" to refer to injury reducing strategies that worked automatically without action by those to be protected. Gladwell portrays the "passive" approach as an ideology rather than a concept that can guide countermeasure choice. Those of us who were influenced by Haddon's intellect in that regard were not blind followers of an ideology, as Gladwell offensively characterizes us. "Beliefs" did not lead us to say that it was difficult to persuade people to wear seat belts by

traditional advertising and education. Those conclusions were based on impeccable research. In fact, to this day I know of no competently designed study that found seat belt use or child restraint use raised substantially by other than laws requiring use.

Gladwell would have us believe that Haddon almost solely focused on “passive” approaches. Yet he was one of the first researchers to do controlled studies of the role of alcohol in fatal crashes.<sup>6</sup> He anonymously coauthored a 1968 report to Congress that summarized the evidence on alcohol.<sup>7</sup> He supported and administered the Highway Safety Act of 1966 that funded state highway safety programs. Contrary to the inference that most of the government’s focus was on motor vehicle standards in the 1970s, more than \$100 million per year was allocated to the states for their programs during the late 1970s. As President of the Insurance Institute for Highway Safety, Haddon convened a conference of researchers, government officials, auto executives, and insurance executives that included emphasis on alcohol and road factors in addition to vehicle factors.<sup>8</sup> With Haddon’s approval, researchers at the institute and institute supported contractors undertook a wide range of studies of human and environmental factors and attempts to change them.

Gladwell’s portrayal of Haddon as a giddy, uncritical supporter of airbags is simply not true. An excerpt from an article in the *National Observer* was reprinted in the institute’s 1971 newsletter (*Status Report*) in which Haddon urged the testing of airbags similar to what one would do with a drug or any public health measure before adoption for general use.<sup>9</sup> Haddon was the most objective, honest scientist that I have known. His views of public policy were driven by scientific evidence of effective and ineffective measures to improve public health, not some ideological preference for one approach over another.

In that regard, Gladwell’s quote from Leonard Evans on passive approaches is outrageous. He derides the analogy of chlorine in water and passive approaches to motor vehicle injury, he says, “Because there isn’t any chlorine for traffic crashes”. Thus he tries to make a technology passive only if it is a panacea. There are dozens of passive approaches to road safety that are substantially effective but not panaceas (chlorine in water and many other passive approaches to public health are not panaceas either but one would hardly abandon their use on that basis). Energy absorbing steering columns, intact passenger compartments in crashes, energy absorbing crush zones in the vehicle outside passenger compartments, energy absorbing devices beside roads, guard rails, and improved sight distances are important examples. Evans spent an inordinate portion of his career publishing essentially the same paper over and over in which he demonstrated that passengers of heavier vehicles had less injury in crashes than passengers of lighter vehicles, which was hardly news to those of us who understood physics. It is no coincidence that his employer, General Motors, made, on average, the heaviest vehicles on the road. But introducing heavier vehicles results in deaths to occupants of lighter vehicles with which they collide. One is trading more deaths in lighter vehicles for fewer deaths in heavier vehicles, not to mention the air pollution and depletion of energy supplies disproportionately associated with heavier vehicles. Among the reasons that the United States fatality rate has not moved lower in recent years is the wide range of weights of vehicles on the road, at least partly the result of promotion by the manufacturers of heavy, so-called sports utility vehicles. In addition to the weight penalty to smaller vehicles in collisions with them, these vehicles roll over more frequently because of instability.<sup>10</sup>

Evans’ claims that changes in the United States death rates compared with other countries indicate that behavioral approaches are superior to “passive” approaches. But most of the vehicle standards and other crashworthiness built into vehicles in the United States apply in other developed countries as well. In fact, at least part of the reduction of motor vehicle deaths in other countries is the result of the application of principles developed by Haddon. Evans has not documented the specific factors that resulted in reductions in a given country. Any trend in any phenomenon that begins from a higher base will usually decline more rapidly than one that had the lowest base to begin with. Despite Australia’s pioneering of seat belt laws and drunk-driving legislation (some of the latter found unconstitutional in the United States), its road deaths per kilometer still slightly exceed those of the United States. Evans’ claim that the United States is in 11th place in road safety is not supported by the Organisation for Economic Cooperation and Development (OECD) death rates per kilometer as of 1999, the latest data available on the OECD web site. Only the United Kingdom and Sweden have rates that are significantly lower than the United States and the rates of Finland, the Netherlands, and Norway are virtually tied with the United States. Other developed countries from which travel data were available, such as Austria, Belgium, Denmark, France, Germany, Japan and Switzerland, have rates ranging from 12% to 70% higher than the United States rate and the developing worlds’ rates are even worse.

During the years 1964 to 1990, car occupant death rates per mile of travel were reduced by about two thirds in the United States. Increases in belt use as a result of laws and programs to reduce drunk-driving contributed to these reduced death rates but not nearly to the extent of the effect of improved vehicle crashworthiness. Corrected for vehicle age, vehicle size, and economic effects, improved vehicle crashworthiness accounts for about 90% of the reduction in occupant fatalities per mile traveled from the 1964 through the 1990 model years in the United States. Belt laws accounted for about 6% and reduced alcohol involvement accounted for about 4% of the reduction.<sup>11</sup> One of the reasons that belt laws and alcohol countermeasures do not have a large independent effect is that a large proportion of drinking drivers are not using belts. If everyone wore seat belts all the time and no one drove drunk, two thirds of deaths in passenger cars would continue to occur.<sup>12</sup>

Of course, neither Haddon nor “Haddonites” deserve credit for all the injury reductions due to crashworthiness. At least some of the changes in vehicles would have been adopted eventually but the industry consistently opposed governmental standards and governmental and private crash tests. It is clear that Haddon prevented the premature death and disability of tens of thousands of people by hastening the adoption of crashworthiness by the industry. He also made a lasting contribution to the basic principles of injury control. Could he or those of us who aided him have done more? Perhaps, but Haddon and many of us worked far beyond the hours expected in our jobs. Did he, or those who followed the principles that he proposed, impair other effective efforts to reduce injury as Gladwell charges? I don’t think so.

Haddon did have a problem. Far from being the gentle fellow described by Senator Moynihan in Gladwell’s article, he had a very nasty personality and loved to bait people when their logic or research methods did not measure up to his standards. Nearly everyone in the injury field, including me, had encounters with him that were extremely unpleasant. Many of us learned to separate the brilliance from the nastiness and to forgive and forget the

latter. This is not the first attempt to discredit Haddon.<sup>13</sup> I do not know how the mistaken distortions of Haddon's ideas and accomplishments came to Gladwell's attention but it is he, not Haddon, who took the "Wrong Turn".

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## 6th World Conference on Injury Prevention and Control

### 12–15 May 2002, Montréal, Canada

The Organizing Committee is very pleased to invite you to take part in the *6th World Conference on Injury Prevention and Control* which will be held from May 12 to 15, 2002 at the Montréal Convention Centre. This meeting, on the theme of Injuries, Suicide and Violence: Building Knowledge, Policies and Practices to Promote a Safer World, will be an excellent opportunity for the participants to exchange information and forge links between sectors (health, transportation, safety, justice, etc) and, together, find new ways to improve the safety of populations and reduce the burden of injuries. The conference will deal first of all with safety problems in various contexts: on the road, in the workplace, in the home, and during recreational and sports activities, as well as the problems of suicide, violence, and post-trauma care. Each of these themes will be discussed extensively during the three days of the conference, which will include oral presentations, round tables, debates, and presentations on the most recent scientific advances.

In addition, cross disciplinary topics that are of interest to all the participants will be presented in plenary sessions to stimulate exchange between sectors and fields of specialty. Finally, satellite conferences, courses, site visits, and exhibits will complete the program. To ensure the quality of the scientific content of the conference, working groups bringing together leaders from each field have been established.

For the second time, this conference will take place in the Americas, which is why we are extending a very special invitation to our colleagues from Latin America. Montréal is a beautiful city, well known for its *joie de vivre*. It has a reputation for hospitality and safety, and also has a cultural heritage that is well worth discovering. We look forward to seeing you in Montréal in May 2002 at the 6th World Conference.

- For registration, accommodation, and abstract submission forms and for more information, please consult the conference web site at <http://www.trauma2002.com> or contact the Conference Secretariat at +1 514 848 1133 (fax +1 514 288 6469).